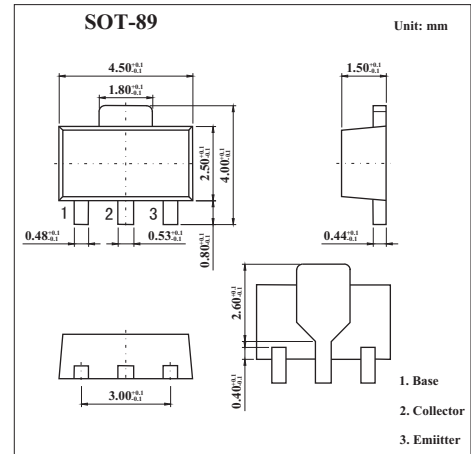


## NPN General Purpose Transistors

### H8050

#### ■ Features

- Collector Power Dissipation:  $P_c=0.5W$
- Collector Current:  $I_c=1.5A$



#### ■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CB0}$	40	V
Collector-emitter voltage	$V_{CE0}$	25	V
Emitter-base voltage	$V_{EB0}$	5	V
Collector current	$I_c$	1.5	A
Collector power dissipation	$P_c$	0.5	W
Junction temperature	$T_j$	150	$^\circ C$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ C$

#### ■ Electrical Characteristics $T_a = 25^\circ C$

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{CB0}$	$I_c=100\mu A, I_E=0$	40			V
Collector-emitter breakdown voltage	$V_{CE0}$	$I_c=0.1mA, I_B=0$	25			V
Emitter-base breakdown voltage	$V_{EB0}$	$I_E=100\mu A, I_c=0$	5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=40V, I_E=0$			0.1	$\mu A$
Collector cut-off current	$I_{CEO}$	$V_{CE}=20V, I_B=0$			0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5V, I_c=0$			0.1	$\mu A$
DC current gain	$h_{FE}$	$V_{CE}=1V, I_c=100mA$	85		400	
		$V_{CE}=1V, I_c=800mA$	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c=800mA, I_B=80mA$			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_c=800mA, I_B=80mA$			1.2	V
Base-emitter on voltage	$V_{BE(on)}$	$I_c=1V, V_{CE}=10mA$			1	V
Base-emitter positive favor voltage	$V_{BEF}$	$I_B=1A$			1.55	V
output capacitance	$C_{ob}$	$V_{CB}=10V, I_E=0, f=1MHz$			15	pF
Transition frequency	$f_T$	$V_{CE}=10V, I_c=50mA$	100			MHz

#### ■ $h_{FE}$ Classification

Rank	B	C	D	D3
$h_{FE}$	85 ~ 160	120 ~ 200	160 ~ 300	300 ~ 400

# H8050

■ Typical Characteristics

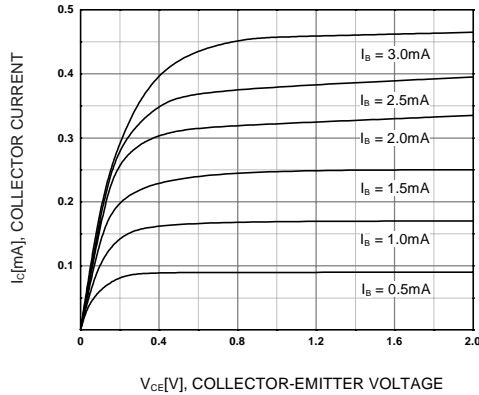


Figure 1. Static Characteristic

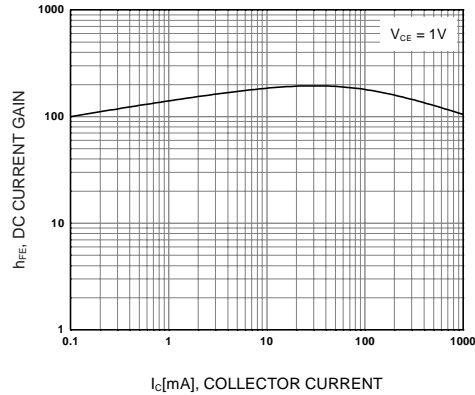


Figure 2. DC current Gain

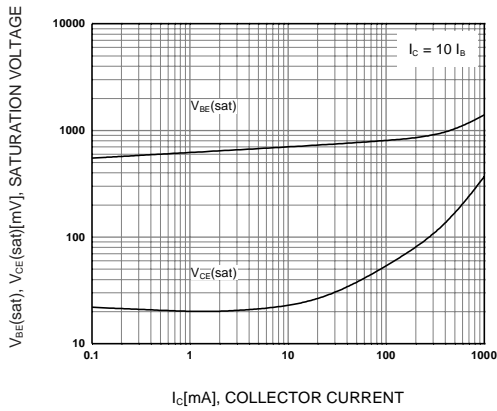


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

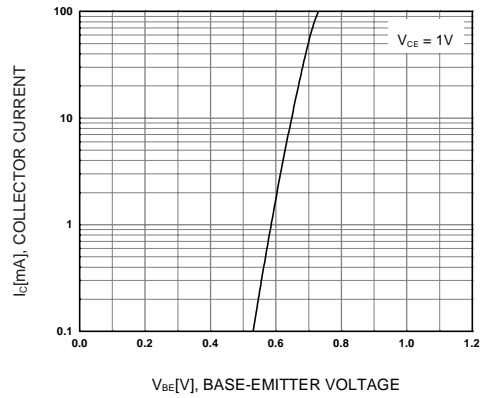


Figure 4. Base-Emitter On Voltage

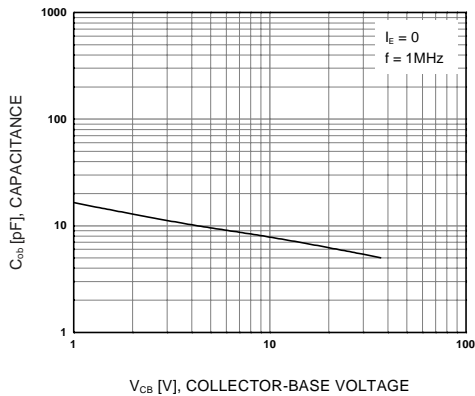


Figure 5. Collector Output Capacitance

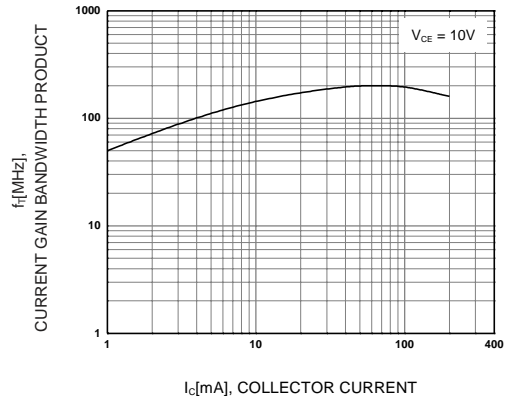


Figure 6. Current Gain Bandwidth Product